

REMARKS

This application has been reviewed in light of the Final Office Action mailed March 30, 2005. Reconsideration of this application in view of the below remarks is respectfully requested. Claims 1-18 and 23-38 are pending in the application with Claims 1, 18, 28, 29, 30, 32, 33, 34 and 37 being in independent form. By the present amendment, Claims 1, 4-5, 13, 18, 28-34 and 37 have been amended. No new matter or issues have been introduced into the disclosure by way of the present amendment.

I. Rejection of Claims 1-6, 8-11, 13-16, 18, 23, 24, 30 and 31 Under 35 U.S.C. §102(b)

Claims 1-6, 8-11, 13-16, 18, 23, 24, 30 and 31 are rejected under 35 U.S.C. §102(b) for allegedly being anticipated by U.S. Patent 6,338,275 issued to Soares (hereinafter “Soares”).

Soares discloses a Schottky-barrier semiconductor device comprising a semiconducting layer 105 and an adjacent metal shunt 110, 115 forming an interface 125 therebetween, wherein a strain induced at the interface changes a resistance at the interface and the interface 125 is located along a top side portion of the film 105 and a along a bottom side portion of the shunts 110, 115 (Cols 7 and 8, lines 38-52 and 1-11).

Soares-taught elements 110 and 115, which the examiner equates with the metal shunt of the present disclosure, are more appropriately analogous to the plurality of metal contacts 150, 160, 170, 180 of the present disclosure (see Applicants’ FIG. 1).

The Soares further discloses a lightly doped semiconductor substrate leaf 105 (required for the creation of a Schottky-barrier) and a pair of conductive contacts 110 and 115 located thereon. The contacts 110, 115 each comprise a layer of metal 120 at an interface 125 with the substrate leaf 105. (See Soares: col. 6, lines 25-30). The interface 125 is the Schottky-barrier.

This differs markedly from Applicant's claimed invention. Specifically, a semiconductor film 120 and an adjacent metal shunt 110 forming a first interface 115 between the semiconductor film 120 and the adjacent metal shunt 110, the semiconductor film 120 and metal shunt 110 being deposited on a substrate 125, and a plurality of metal contacts 150, 160, 170, 180 forming a plurality of secondary interfaces with the semiconductor film 120 on an opposite side of the metal shunt 110, as recited in Applicant's Claim 1.

Additionally, Soares requires a Schottky-barrier interface between the semiconductor and the contacts 110, 115. Soares, in fact, teaches away from a resistive interface between the semiconductor and the contacts. Applicant discloses a resistive, or Ohmic, interface between the semiconductor 120 and the metal contacts 150, 160, 170, 180 (See Applicants' paragraph 26, lines 1-2), thus unlike Soares, the present invention is not limited to a Schottky-barrier interface, while Soares' disclosed device clearly would be rendered inoperable for its stated function if the Schottky-barrier interface were replaced with a resistive interface.

Soares fails to anticipate all of the elements of Applicant's claimed invention as recited in Claim 1. Similar language is recited in the remaining independent claims, namely Claims 18, 28, 29, 30, 32, 33, 34 and 37. Claims 2-6, 8-11, 13-16, 18, 23, 24 and 31 are dependent from Independent Claims 1 and 30 and thus are limited by the language recited by these independent claims. Therefore, for at least the reasons given above, Applicant believes the present invention as recited in Claims 1-6, 8-11, 13-16, 18, 23, 24, 30 and 31 are patentably distinct and allowable over Soares. Accordingly, Applicant respectfully requests withdrawal of the rejection, with respect to Claims 1-6, 8-11, 13-16, 18, 23, 24, 30 and 31, under 35 U.S.C. § 102(b) over Soares and allowance thereof.

II. Rejection of Claims 7, 12, 17, 25, 26, 27-29 and 32-38 Under 35 U.S.C. §103(a)

Claims 7, 12, 17, 25, 26, 27-29 and 32-38 are rejected under 35 U.S.C. §103(a) over Soares in view of U.S. Patent No. 6,707,122 issued to Hines et al. (hereinafter “Hines et al.”).

As mentioned above, Soares fails to disclose or suggest all the elements of Applicant’s claimed invention. Specifically, Soares fails to teach a semiconductor film 120 and an adjacent metal shunt 110 forming a first interface 115 between the semiconductor film 120 and the adjacent metal shunt 110, the semiconductor film 120 and metal shunt 110 being deposited on a substrate 125, and a plurality of metal contacts 150, 160, 170, 180 forming a plurality of secondary interfaces with the semiconductor film 120 on an opposite side of the metal shunt 110, as recited, in whole or part, in Applicant’s Claims 1, 18, 28, 29, 32-34 and 37.

Hines et al. discloses an extraordinary magnetoresistance sensor typically used for reading information signals recorded on magnetic media, e.g. floppy diskettes and hard drives, and not a strain sensor as taught by Soares, thus the combination of the two references would not, necessarily, be obvious to one skilled in the art.

Even assuming the combination of Soares and Hines et al., Hines et al. fails to overcome the deficiencies of Soares as noted above. Specifically, Hines et al. fails to teach a semiconductor film 120 and an adjacent metal shunt 110 forming a first interface 115 between the semiconductor film 120 and the adjacent metal shunt 110, the semiconductor film 120 and metal shunt 110 being deposited on a substrate 125, and a plurality of metal contacts 150, 160, 170, 180 forming a plurality of secondary interfaces with the semiconductor film 120 on an opposite side of the metal shunt 110.

Therefore, for at least the reasons given above, Soares and Hines et al., taken alone or in any proper combination, fail to disclose or suggest Applicant’s invention as recited in Independent Claims 1, 28, 29, 32-34 and 37. Claims 2-6, 8-11, 13-16, 18, 23, 24 and 31 are

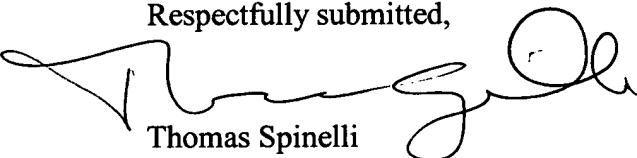
dependent form Independent Claims 1, 28, 29 and 30, and thus are limited by the language recited by these independent claims. Accordingly, Applicant respectfully requests withdrawal of the rejection, with respect to Claims 7, 12, 17, 25, 26, 27-29 and 32-38, under 35 U.S.C. § 103(a) over Soares in view of Hines et al. and allowance thereof.

CONCLUSIONS

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-18 and 23-38 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicant's undersigned attorney at the number indicated below.

Respectfully submitted,



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